

UNDERSTANDING PROLOG EVALUATION

find ([X | _] , X)
find ([Y | L] , X) :- find (L,X)

GOAL → find ([1,X₁,Y₁] , 2)

find([X | _] , X)
GOAL → find ([1,X₁,Y₁] , 2)

X = 1 ; _ = [X₂,Y₂] ; X = 2 FALSE

find([Y|L] , X) :- find (L,X)
GOAL → find ([1,X₁,Y₁] , 2)

Y = 1 ; L = [X₂,Y₂] ; X = 2 TRUE → Evaluate the body

find (L,X)
NEW GOAL → find ([X₂,Y₂] , 2)

find ([X | _] , X)
GOAL → find ([X₂,Y₂] , 2)

X = X₂ ; _ = Y₂ ; X = 2 TRUE! GOAL SATISFIED WITH X₂ = 2!

END X₂ = 2